

ABSTRACT

STABILIZED SOLID-STATE LASER GYRO AND ANISOTROPIC LASING MEDIUM

The field of the invention is that of solid-state laser gyros. One of the major inherent problems in this technology is that the optical emission of this type of laser is by nature highly unstable in terms of power.

To reduce this instability, the invention proposes to introduce, into the cavity (1), optical gains controlled by the installation of an optical assembly comprising an anisotropic lasing medium (19), a first optical element (7) and a second optical element exhibiting a nonreciprocal effect (8), each acting on the polarization of the counterpropagating optical modes, at least one of these two effects being variable, thus making it possible to introduce controlled optical gains that depend on the propagation direction of the counterpropagating optical modes.

Several devices are described and employ either fixed effects of the element (7) that are combined with variable nonreciprocal effects, or the reverse. These devices apply in particular to monolithic-cavity lasers.

FIGURE 3